

REMARKS

This Amendment responds to the Office Action mailed March 5, 2009 in the above-identified application. Based on the foregoing amendments and the following comments, allowance of the application is respectfully requested.

Claims 1-37 are pending in the application. Claims 11-20 and 22-36 have been withdrawn from consideration. Accordingly, claims 1-10, 21 and 37 are currently under consideration. By this Amendment, claims 1, 10, 21 and 37 have been amended. The amendments find clear support in the original application at least at page 17, line 15 to page 18, line 9 and page 36, line 11 to page 39, line 18. No new matter has been added.

The Examiner has rejected claims 1-5, 8, 10 and 37 under 35 U.S.C. §102(b) as anticipated by MacAulay (US 6,483,641). Claim 6 is rejected under 35 U.S.C. §103(a) as unpatentable over MacAulay in view of Moranski et al. (US 6,094,289). Claim 7 is rejected under 35 U.S.C. §103(a) as unpatentable over MacAulay in view of Sun (US 6,415,068). Claim 9 is rejected under 35 U.S.C. §103(a) as unpatentable over MacAulay in view of Hosoi (US 6,400,490). Claim 21 is rejected under 35 U.S.C. §103(a) as unpatentable over Holzbach (US 6,795,241) in view of MacAulay. The rejections are respectfully traversed for the following reasons.

MacAulay discloses microscopes that have advantages in controlling the light that contacts a sample and/or that is detected emanating from a sample. The control includes selective control of angle of illumination, the quantity of light and the location of light reaching the sample and/or a detector. One or more spatial light modulators are placed in the illumination and/or detection light path of the microscope at one or both of the conjugate image plane of the aperture diaphragm of the objective lens and the conjugate image plane of the sample (col. 2, lines 54-64). As shown in FIG. 3A of MacAulay, a digital micromirror device 34 is positioned between a sample 20 and a light detector 26. MacAulay teaches that the change in angle of illumination made possible by such microscopes permits the determination of 3D images of the sample. For example, the sample can be illuminated from a plurality of different angles, and then the changes in intensity in the light impinging on individual pixels in the detection array can be detected and then combined, compiled and/or reconstructed by a controller to provide a 3D image of the sample (col. 22, lines 40-47).

MacAulay describes the making of a 3D image at col. 23, lines 53-67 and describes time delayed fluorescence microscopy at col. 24, lines 18-38.

Amended claim 1 is directed to a three-dimensional image pickup apparatus comprising, in part, a plurality of light receiving elements and a plurality of light path selection elements for selecting different incoming angles of light to come to the light receiving elements at different times, wherein intensities of the light received by said light receiving elements and the corresponding different incoming angles of light selected by said light path selection elements at different times are recorded in a coordinated relationship, the recorded light intensities representing different images received by said light receiving elements at different incoming angles of light and at different times, wherein, when the different images are reproduced by emitting light representing the different images at different outgoing angles of light and at different times, the different images are perceived by a viewer as a three-dimensional image and are perceived by the viewer as a different three-dimensional image when the viewer observes the different images from a different direction.

MacAulay discloses a microscope including a detector having a plurality of elements and a spatial light modulator having a plurality of elements. MacAulay teaches that the change in angle of illumination made possible by the spatial light modulator permits the determination of 3D images of the sample. MacAulay teaches that the light impinging on individual pixels in the detection array can be detected and then combined, compiled and/or reconstructed by a controller to provide a 3D image of the sample (col. 22, lines 42-47). However, MacAulay does not disclose or suggest a three-dimensional image pickup apparatus wherein recorded light intensities represent different images received by said light receiving elements at different incoming angles of light and at different times, *wherein, when the different images are reproduced by emitting light representing the different images at different outgoing angles of light and at different times, the different images are perceived by a viewer as a three-dimensional image and are perceived by the viewer as a different three-dimensional image when the viewer observes the different images from a different direction, as required by amended claim 1.* By contrast, MacAulay teaches a microscope wherein detected changes in light intensity are *combined, compiled and/or reconstructed by a controller to provide a 3D image.* The claimed invention does not involve combining, compiling and/or

reconstructing acquired data to provide a 3D image, as disclosed by MacAulay. Instead, the different images are emitted at different outgoing angles and at different times, so that the viewer *perceives* a three-dimensional image without requiring the image data to be combined, compiled and/or reconstructed to provide a 3D image. For at least these reasons, amended claim 1 is clearly and patentably distinguished over MacAulay, and withdrawal of the rejection is respectfully requested.

Claims 2-9 depend from claim 1 and are patentable over the cited references for at least the same reasons as claim 1.

Amended claim 10 is directed to a three-dimensional image pickup apparatus comprising, in part, light intensity acquisition means and incoming angle acquisition means for acquiring corresponding incoming angle information of the received light at different incoming angles and at different times, wherein the intensity information and the corresponding incoming angle information of the light are recorded in a coordinated relationship with each other, the recorded intensity information representing different images received by said light intensity acquisition means at different incoming angles and at different times, wherein, when the different images are reproduced by emitting light representing the different images at different outgoing angles of light and at different times, the different images are perceived by a viewer as a three-dimensional image and are perceived by the viewer as a different three-dimensional image when the viewer observes the different images from a different direction.

As should be apparent from the discussion above, MacAulay contains no disclosure of a three-dimensional image pickup apparatus wherein recorded intensity information represents different images received by the light intensity acquisition means at different incoming angles and at different times, and *wherein, when the different images are reproduced by emitting light representing the different images at different outgoing angles of light and at different times, the different images are perceived by a viewer as a three-dimensional image and are perceived by the viewer as a different three-dimensional image when the viewer observes the different images from a different direction*, as required by amended claim 10. For at least these reasons, claim 10 is clearly and patentably distinguished over MacAulay, and withdrawal of the rejection is respectfully requested.

Amended claim 37 is directed to an information recording method and contains method limitations that correspond to the apparatus limitations of claim 10. As should be apparent from the discussion above, amended claim 37 is clearly and patentably distinguished over MacAulay, and withdrawal of the rejection is respectfully requested.

Amended claim 21 is directed to a three-dimensional image pickup and display apparatus comprising a light reception section and a light emission section. The light reception section includes a plurality of light receiving elements and a plurality of light path selection elements for selecting different incoming angles of light to come to said light receiving elements at different times, wherein intensities of the light received by said light receiving elements and the corresponding different incoming angles of light selected by the light path selection elements at different times are coordinated with each other to form video signals that represent different images received by said light receiving elements at different incoming angles of light and at different times. The light emission section includes light emitting elements which emit light based on the video signals and light path selection elements for selecting corresponding different outgoing angles of light to be emitted from the light emitting elements at different times. The light emitting elements emit light based on the video signals to reproduce the different images at different outgoing angles of light and at different times, wherein the different images are perceived by a viewer as a three-dimensional image and are perceived by the viewer as a different three-dimensional image when the viewer observes the different images from a different direction.

The Examiner cites Holzbach as teaching a three-dimensional image pickup and display apparatus, but concedes that Holzbach does not teach a plurality of light path selection elements for selecting different incoming angles of light to come to the light receiving elements as claimed. The Examiner asserts that MacAulay teaches these limitations. Applicant must respectfully disagree.

MacAulay does not disclose or suggest *a light emitting section including light emitting elements which emit light based on video signals to reproduce the different images at different outgoing angles of light and at different times, wherein the different images are perceived by a viewer as a three-dimensional image and are perceived by the viewer as a different three-dimensional image when the viewer observes the different images from a different direction*, as required by amended claim 21. For at least these reasons and for the reasons discussed above,

amended claim 21 is clearly and patentably distinguished over Holzbach in view of MacAulay, and withdrawal of the rejection is respectfully requested.

Based upon the above discussion, claims 1-10, 21 and 37 are in condition for allowance.

CONCLUSION

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, the Director is hereby authorized to charge any deficiency or credit any overpayment in the fees filed, asserted to be filed or which should have been filed herewith to our Deposit Account No. 23/2825, under Docket No. S1459.70077US00.

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Respectfully submitted,

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